

**Montana Department of Environmental Quality (DEQ)**  
**Permitting and Compliance Division/Hazardous Waste Program**  
**Remediation Division/Site Response Section**

**Guidance for Applying EPA's Contained-in Policy to Environmental Media**  
**June 27, 2013**

Environmental media (soil, ground water, surface water, and sediment) are not generally solid wastes. However, when environmental media is contaminated with a Resource Conservation and Recovery Act (RCRA) listed hazardous waste or exhibit a characteristic of a hazardous waste, the media must be managed as hazardous waste until the media no longer contains the waste. DEQ may, under certain site-specific circumstances, make a 'contained-in determination' that an environmental media which contains a hazardous waste is not subject to hazardous waste regulation.

**Discussion**

EPA has issued a contained-in policy which requires that soil and other environmental media be managed as if they were hazardous waste if they contain a listed hazardous waste or exhibit a characteristic of hazardous waste. A contained-in determination does not mean that no hazardous constituents are present in the environmental media; rather, it means the concentrations of hazardous constituents present do not warrant management of the media as hazardous waste.

Importantly, there are circumstances when an environmental media no longer contains hazardous waste, but is still subject to the land disposal restrictions (LDRs) of 40 CFR Part 268.

***Media Containing Listed Hazardous Wastes***

The contained-in determination for media containing a listed hazardous waste refers to a process where a site-specific determination is made that concentrations of hazardous constituents in any given volume of environmental media are low enough to determine the media does not contain hazardous waste. The determination that media no longer contains a listed waste is made by an authorized state or EPA.

Specific wastes were designated as listed hazardous wastes beginning in 1981, when RCRA became law. If an environmental media is contaminated with a waste that has been designated as a listed hazardous waste, the media automatically is considered to contain that listed waste. LDRs of 40 CFR Part 268 would apply to the media once that media is actively managed.

If an environmental media was contaminated with a waste prior to the date that waste was designated as listed, the media would not contain a listed hazardous waste as long as the media remains in-situ. However, once the contaminated media is actively managed, i.e. removed from the ground, the listing applies to the waste, and compliance with RCRA regulations regarding hazardous waste is required. LDRs of 40 CFR Part 268 would also apply to the media once the media is actively managed.

### ***Media Exhibiting a Characteristic of Hazardous Waste***

The generator must determine whether the media exhibits characteristics of ignitability, corrosivity, reactivity, and/or toxicity. Criteria for identifying a characteristic of hazardous waste are found in 40 CFR 261, Subpart B. Because these determinations can be made through relatively straightforward analytical testing, EPA has stated that no formal contained-in determination by EPA or an authorized state is required (EPA, October 1998).

LDRs of 40 CFR Part 268 attach to a media which exhibits a characteristic of hazardous waste when that media is actively managed. If the characteristic is removed prior to active management, LDRs would not apply.

### **Considerations for Contained-in Determinations**

EPA or an authorized state can make a contained-in determination. Contained-in determinations may be made before or after treatment of a contaminated environmental media and should include consideration of site-specific exposure pathways (potential for human exposure, soil permeability, leaching potential to groundwater), as well as final disposition of the media. A contained-in determination must meet two basic criteria:

1. The environmental media must not exhibit a characteristic of hazardous waste; and
2. Concentrations of hazardous constituents in the media must not present a threat to human health and the environment at final disposition.

### **The Contained-in Determination Process for Contaminated Soils and Sediment**

A generator of soil or sediment containing a listed hazardous waste may request DEQ make a contained-in determination that the soil or sediment is not subject to hazardous waste regulation. The request for a contained-in determination includes, but is not necessarily limited to, historical and background information on the site in question and the wastes found in the soil or sediment, complete and valid sampling and laboratory analytical results, proposed final disposition of the soil or sediment, and information and written approvals, as applicable, regarding off-site disposal facilities.

The request should document that:

1. The source of the hazardous constituents is a listed hazardous waste;
2. The soil or sediment does not exhibit a characteristic of hazardous waste;
3. The soil or sediment subject to the contained-in determination has been appropriately characterized by representative sampling based on the estimated volume of impacted soil or sediment; and
4. Concentrations of hazardous constituents present in the soil or sediment at the time of the request were not achieved by dilution. (Some forms of treatment and/or removal are appropriate ways to lower concentrations of hazardous constituents in contaminated soil or sediment.)

DEQ will then evaluate the request for a contained-in determination in the following manner:

1. DEQ will verify that the soil or sediment does not exhibit a characteristic of hazardous waste.
2. DEQ will compare laboratory results for the characterization samples to DEQ-approved site-specific cleanup levels (SSCLs), if available, or DEQ-approved generic screening levels (direct contact and leaching to groundwater based cleanup levels will be used in either case).
  - a. For soil or sediment that will remain on-site, residential SSCLs or generic screening levels will be used unless use of the property has been restricted and the restrictions have been approved by DEQ.
3. If the laboratory results for characterization samples are below all appropriate SSCLs or generic screening levels, DEQ may make a determination that the soil or sediment no longer contains a hazardous waste (contained-in determination).
4. If the laboratory results for the characterization samples are below the direct contact SSCLs or generic screening levels but exceed leaching to groundwater SSCLs or generic screening levels, DEQ will evaluate the proposed disposal location of the waste.
  - a. If the waste will be disposed on-site, a contained-in determination cannot be made.
  - b. If the waste will be disposed off-site, DEQ will evaluate information on the off-site disposal facility, including but not limited to:
    - i. The name and location of the disposal facility.
    - ii. The disposal facility's acceptance requirements/constituent concentration limits (including TCLP and/or other analyses, if required by the disposal facility to establish the waste does not exhibit a characteristic of hazardous waste) and verification that those requirements/limits have been met for the soil or sediment in question.
    - iii. Written verification that the disposal facility is appropriately permitted to accept soil or sediment and is in compliance with its permit requirements.
    - iv. Written verification that the disposal facility's landfill is appropriately lined to contain leachate.
      - 1) If the landfill is not lined, the request for the contained-in determination should explain how the disposal facility contains leachate and how the disposal facility's containment is protective (i.e. the landfill is underlain by 60 feet of competent silty clay with a permeability of  $1.9 \times 10^{-7}$  centimeters per second).
    - v. Written verification that the disposal facility has agreed to accept the soil or sediment as evidenced by a written approval from the disposal facility.
  - c. If the evaluation of the off-site disposal facility indicates disposal would be protective of human health and the environment, DEQ may make a contained-in determination.

5. DEQ may make a contained-in determination for soil or sediment where hazardous constituent concentrations are above DEQ-approved generic screening levels for direct contact and leaching potential to groundwater, if DEQ determines that disposal of contaminated soil or sediment at the disposal facility would be protective of human health and the environment (i.e. would not pose a threat to groundwater).
6. The generator may not manage the soil or sediment as a non-hazardous waste until it receives the contained-in determination in writing from DEQ.

### **The Contained-in Determination Process for Contaminated Groundwater and Surface Water**

Making a contained-in determination for groundwater or surface water containing a listed hazardous waste is similar to soil or sediment. A generator of groundwater or surface water containing a listed hazardous waste may request DEQ make a contained-in determination that the groundwater or surface water is not subject to hazardous waste regulation by providing the same or similar information as for a soil or sediment request.

1. DEQ will verify that the groundwater or surface water does not exhibit a characteristic of hazardous waste.
2. DEQ will compare laboratory results for the characterization samples to DEQ-approved SSCLs, if available, or DEQ-approved generic screening levels.
  - a. In general and in conformance with Montana law, Circular DEQ-7 water quality standards are used as SSCLs.
  - b. If no DEQ-7 standard is available for a constituent, DEQ-approved generic screening levels may be used, such as Risk Based Screening Levels in Montana's Tier 1 RBCA Guidance for Petroleum Releases or EPA Regional Screening Levels for tap water.
3. If the laboratory results for characterization samples are below SSCLs or DEQ-approved generic screening levels, DEQ may make a determination that the groundwater or surface water no longer contains a hazardous waste (contained-in determination).
4. If the laboratory results for the characterization samples are above site-specific SSCLs or generic screening levels, DEQ will evaluate the proposed disposal location of the waste.
  - a. If the waste will be disposed on-site, a contained-in determination cannot be made.
  - b. If the media will be disposed off-site, DEQ will evaluate information on the off-site disposal facility, including but not limited to:
    - i. The name and location of the disposal facility.
    - ii. The disposal facility's acceptance requirements/constituent concentration limits (including TCLP and/or other analyses if required by the disposal facility to establish the waste does not exhibit a characteristic of hazardous waste) and

- verification that those requirements/limits have been met for the groundwater or surface water in question.
- iii. Written verification that the disposal facility is appropriately permitted to accept groundwater or surface water and is in compliance with its permit requirements.
  - iv. Written verification that the disposal facility's treatment system is appropriately designed to treat the groundwater or surface water.
  - v. Written verification that the disposal facility has agreed to accept the groundwater or surface water as evidenced by a written approval from the disposal facility.
- c. If the evaluation of the off-site disposal facility indicates disposal would be protective of human health and the environment (i.e. would not pose a threat to groundwater), DEQ may make a contained-in determination.
5. The generator may not manage the groundwater or surface water as a non-hazardous waste until it receives the contained-in determination in writing from DEQ.

### ***Other Considerations***

1. A contained-in determination does not preclude compliance with LDRs of 40 CFR Part 268. DEQ should determine whether LDRs apply to a contaminated media or ensure that the generator of the media is aware compliance with LDRs may be necessary.
2. LDR treatment standards listed in §268.40 and §268.48 are compliance standards for management of hazardous waste and hazardous waste-contaminated environmental media and should not be used as cleanup levels. LDR treatment standards are based on the performance of specific treatment technologies. Technology-based treatment standards are not necessarily appropriate surrogates for site-specific risk-based human or ecological cleanup levels determined by an analysis of risk.
3. If a contained-in determination is made by DEQ, that approval will be conditioned upon the generator providing final receipts for off-site disposal of the media, such as manifests or bills of lading, to DEQ to verify the final destination of the material.
4. Contained-in determinations will be made by DEQ on a site-specific and disposal-facility specific basis. If, prior to disposal of the media, the disposal facility changes, the generator must notify DEQ and submit updated information and documentation regarding the new disposal facility if the generator still seeks a contained-in determination. DEQ retains the option of voiding the original contained-in determination and the generator may submit a new contained-in determination request to DEQ.

### **References**

November 13, 1986: EPA memorandum "RCRA Regulatory Status of Contaminated Groundwater."

August 17, 1988: 53 Federal Register 31138, 31142, 31148.

May 20, 1993: 57 Federal Register 21450, 21453.

April 29, 1996: 61 Federal Register 18795, 18804.

September 15, 1995: Letter from Michael Shapiro (EPA OSW Director) to Peter C. Wright  
(Monsanto Company).

May 26, 1998: 63 Federal Register 28617.

October 1998: “Management of Remediation Waste Under RCRA”, EPA530-F-98-026.